UNITED STATES PATENT AND TRADEMARK OFFICE

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10/566,602	08/07/2006	Yongliang Xu	56815.1100	5771

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/566,602	XU, YONGLIANG
Office Action Summary	Examiner	Art Unit	
	KHALID ABDALLA	4173	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>01/31/2006</u>.

2a) ☐ This action is FINAL.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-22</u> is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-22</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a) ☒ All   b) ☐ Some *   c) ☐ None of:

       1. ☒ Certified copies of the priority documents have been received.

       2. ☐ Certified copies of the priority documents have been received in Application No. _____.

       3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>See Continuation Sheet</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date
:08/26/2008,09/13/2007,01/31/2006.

DETAILED ACTION

1. This application has been examined .Claims 1-22are pending in this application

Information Disclosure Statement

2. The Examiner has considered the references listed on the Information Disclosure

statement submitted on 01/31/2006 (see attached PTO-1449.

Drawings

3. The examiner contends that the drawings submitted on 01/31/2006 are acceptable
for examination proceedings

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bienn et

al (US 20030169729 A1) IN VIEW OF kongalath (us 2005/0083862 A1).

   Regarding claim1,   Bienn discloses a method for migration between a permanent

connection and a switched connection in a transmission network (interworking between

a legacy circuit-switched domain and a packet-switched domain see [0002] , [0004] and

FIG.1). comprising the steps of:

b) making migration between a permanent connection and a switched connection node

by node after receiving the message of migrating request. (A telecommunications

system is provided having at least a first PS network, a second PS network, a third

circuit-switched core network, and a system for terminating a legacy domain circuit-

switched communication upon receipt of a trigger signal request see [0006])

Bienn dose not discloses steps of :

a) the ingress node of the current connection forwarding the message of connection

migrating request node by node in the direction of traffic signal transmission of the

current connection starting from the ingress node until the egress node of the current

connection, after receiving a message of connection migrating request.

However Kongalath teaches steps of:

a) the ingress node of the current connection forwarding the message of connection

migrating request (a migration instruction is sent to both the source and the target data

servicing nodes 202 and 206. Node 202 responds to the migration request see [0038]

and FIG.2)node by node in the direction of traffic signal transmission of the current

connection starting from the ingress node until the egress node of the current

connection, after receiving a message of connection migrating request (the target node

forwards the service request to the source node, which processes the service request

and returns to the target node a result of the processing, and the target node responds

to the external application with a service request response based on the result received

from the source node see [0027]). Thus it would have been obvious to one of ordinary

skill in the art at the time the invention was made to made use of the disclosure of Bienn

and combine it with the teachings of Kongalath in order to efficiently migrate data from

one or more data source servicing nodes to another target data servicing node.

Regarding claim2, note that , Bienn modified by Kongalath teaches a method

according to Claim 1, wherein said step of forwarding the message of connection

migrating request (Kongalath : a migration instruction is sent to both the source and the

target data servicing nodes 202 and 206. Node 202 responds to the migration request

see [0038] and FIG.2).

the process of connection migration in this method is performed by the control plane

(Bienn :An LMSDS can be generally defined as support for allowing a standardized

conversion between circuit-switched data and packet-switched data for transmission on

a mobile network [0014]and FIG.1). of the node and the message of connection

migrating request is transferred via the control link (Kongalath :data administrator

selects the most appropriate telecommunication means over which reference data is to

be migrated from the first HLR to the second HLR. Before communication, the first HLR

verifies a common channel signalling system functionality level of the second HLR,

Transfer considerations are also evaluated to select either the common channel

signalling or the data network as a means for data migration see [0015]).

Regarding claim3, note that Bienn discloses a method according to Claim 2,

wherein a migration from a permanent connection to a switched connection in said

migration process between a permanent connection and a switched connection

(interworking between a legacy circuit-switched domain and a packet-switched domain see [0002] , [0004] and FIG.1). comprises creating a state of switched connection on the control plane (An LMSDS can be generally defined as support for allowing a standardized conversion between circuit-switched data and packet-switched data for transmission on a mobile network [0014]and FIG.1) of the node and handing over the cross-connections of the permanent connection at this node to the control plane (The MSCe 17 uses PS signaling to control the MGW 7 across reference point 39 and to allow the MGW 7 to communicate with MGW 47 of network 2 across reference point/interface yy. The MSCe 17 translates a received E. 164 number into an IP address when IP bearer is to be used see [0029] also the LMSDS 11 performs authentication of mobile stations, and performs call delivery to another LMSDS 12 of network 2 across reference point zz, using an open-standards PS protocol, such as SIP see [0027]).

Regarding claim4, note that Bienn discloses A method according to Claim 2, wherein a migration from a switched connection to a permanent connection in said migration process between a permanent connection and a switched connection (interworking between a legacy circuit-switched domain and a packet-switched domain see [0002] , [0004] and FIG.1)comprises deleting the state of the current switched connection from the control plane of the node (the serving MSCe 45 sends the serving MGW 47 a PS protocol device control format message to remove terminations see [0057])and handing over the cross- connections of the switched connection at this node to the management plane (The MSCe 17 uses PS signaling to control the MGW 7 across reference point 39 and to allow the MGW 7 to communicate with MGW 47 of

network 2 across reference point/interface yy. The MSCe 17 translates a received E.

164 number into an IP address when IP bearer is to be used see [0029]).

Regarding claim5, note that Bienn discloses a method according to Claim 2,

wherein said control plane is based on TCP/IP protocol (Requests can be sent through

any transport protocol, such as UDP, SCTP or TCP. SIP determines the end system to

be used for the session, the communication media and media parameters, and the

called party's desire to engage in the communication. Once these are assured, SIP

establishes call parameters at either end of the communication, and handles call

transfer see [0036]), and said migration between a permanent connection and a

switched connection is implemented by using the RSVP-TE signaling protocol or the

CR-LDP signaling protocol (also The division of functions into separate functional

entities separated by a PS protocol interface facilitates the use of open standards for

managing traffic and signals in a PS environment see [0016]).

Regarding claim6, note that Bienn discloses a method according to Claim 1,

wherein said migration between a permanent connection and a switched connection

node by node. in Step b) of the method

comprises: making migration between a permanent connection and a switched

connection node by node (A telecommunications system is provided having at least a

first PS network, a second PS network, a third circuit-switched core network, and a

system for terminating a legacy domain circuit-switched communication upon receipt of

a trigger signal request see [0006]).

Also note that Kongalath teaches starting from the egress node until the ingress node in the reversed direction of the forwarding path of the message of connection migrating request after the message of connection migrating request has reached the egress node (the target node forwards the service request to the source node, which processes the service request and returns to the target node a result of the processing, and the target node responds to the external application with a service request response based on the result received from the source node see [0027]) .

Regarding claim7, note that Kongalath teaches a method according to Claim 6, further comprising: each said node, after completing the migration, sending a message of migration completing notification to the next node required to make migration until the ingress node, which sends said message of migration completing notification to the initiator of the connection migrating request (each service request 116 that may come from an external application 117 (e.g. switching node) is provided no response or an error response 118 by the frozen Node B 104, until the time the transfer is completed and the service of Node B is re-established, action 120. see [0012]).

Regarding claim8, note that , Bienn discloses a method according to Claim 1, wherein said migration between a permanent connection and a switched connection node by node in Step b) of the method comprises: each node making a migration between a permanent connection and a switched connection right after a message of connection migrating request is received (A telecommunications system is provided having at least a first PS network, a second PS network, a third circuit-switched core

network, and a system for terminating a legacy domain circuit-switched communication
upon receipt of a trigger signal request see [0006])

Regarding claim9, note that Kongalath teaches a method according to Claim 8,
further comprising: after all said nodes complete the migration, forwarding the message
of migration completing notification node by node starting from the egress node(the
target node forwards the service request to the source node, which processes the
service request and returns to the target node a result of the processing, and the target
node responds to the external application with a service request response based on the
result received from the source node see [0027]) . till the ingress node in the reversed
direction of the forwarding path of said message of request (each service request 116
that may come from an external application 117 (e.g. switching node) is provided no
response or an error response 118 by the frozen Node B 104, until the time the transfer
is completed and the service of Node B is re-established, action 120. see [0012])., and
the ingress node sending said message of migration completing notification to the
initiator of the connection migrating request.

Regarding claim10, note that Kongalath teaches a method according to Claim 7,
wherein said message of migration completing notification contains the routing
information of the entire connecting link of the migration. (Action 402, wherein a
migration instruction is received by the source node 202 and by the target node 206. In
action 404, the migration process is at least started, and possibly completed see [0047]
and FIG.4)

Regarding claim11, note that Bienn discloses A method according to Claim 7,

wherein said message of migration completing notification contains the identifier (A

reference point exists when two network entities are interconnected through one

signaling or bearer stream point. Reference points identify that a logical relationship

exists between two network entities see [0025]) of the current switched connection if

said migration between a permanent connection and a switched connection is a

migration from a switched connection to a permanent connection (interworking between

a legacy circuit-switched domain and a packet-switched domain see [0002] , [0004] and

FIG.1).

Regarding claim12, note that, Bienn discloses a method according to Claim 1,

wherein said message of connection migrating request received by the ingress node

comprises (a migration instruction is sent to both the source and the target data

servicing nodes 202 and 206. Node 202 responds to the migration request by setting its

status to slave node see [0038]: the ingress node identifier and incoming port

information or the ingress node identifier (A reference point exists when two network

entities are interconnected through one signaling or bearer stream point. Reference

points identify that a logical relationship exists between two network entities see [0025])

and outgoing port information of the ingress node of the connection currently requested

to be migrated, and each node adds its own outgoing port information to the message of

connection migrating request before forwarding the message (A telecommunications

system is provided having at least a first PS network, a second PS network, a third

circuit-switched core network, and a system for terminating a legacy domain circuit-

switched communication upon receipt of a trigger signal request see [0006]).

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Regarding claim13 Kongalath teaches a method according to Claim 12, wherein, in the process of forwarding said message of connection migrating request by each node, the outgoing port (the target node forwards the service request to the source node, which processes the service request and returns to the target node a result of the processing, and the target node responds to the external application with a service request response based on the result received from the source node see [0027]) . information from the present node to the next node is added to the message of connection migrating request if the message includes incoming port information; and the incoming port information from the present node to the next node is added to the message of connection migrating request if the message includes outgoing port information (The data transfer from Node A 102 to Node B 104 is started at step 112, as the database of the target Node 104 is frozen as well for receiving the incoming data, action 113. Portions of data (e.g. subscriber records [0012]).

Regarding claim14, note that Bienn discloses a method according to Claim 12, wherein said incoming port information comprises the identifier (A reference point exists when two network entities are interconnected through one signaling or bearer stream point. Reference points identify that a logical relationship exists between two network entities see [0025]) of the incoming port, or the identifier of the incoming channel, or the combination thereof; and said outgoing port information comprises the identifier of the outgoing port, or the identifier of the outgoing channel, or the combination thereof (provides switching of the bearer channels by connecting media streams from one set of

network terminations to another set of network terminations; and it converts media in

one type of network termination to the format required in another type of network

termination see [0019]).

 Regarding claim15, note that, Bienn discloses A method according to Claim 12,

wherein said own outgoing port information of the node is obtained by inquiring the

cross-connection information stored in the node itself based on the incoming port

information of the current node (The request response received at the target node may

also be stored so that when migrating the record in question that record can be

inspected and data changes can be appended, if required. At some point in time, all

data transfer is completed toward the target data servicing node [0036]).

        Regarding claim16, note that, Bienn discloses A method according to Claim 12,

further comprising before said ingress node makes a migration between a permanent

connection and a switched connection: deciding whether the ingress node identifier (A

reference point exists when two network entities are interconnected through one

signaling or bearer stream point. Reference points identify that a logical relationship

exists between two network entities see [0025]) and incoming port information or the

ingress node identifier .

Also not that Kongalath teaches , and outgoing port information contained in the

received message of connection migrating request is correct or not, if yes, making the

migration, otherwise returning a message of failure and ending this process (the target

node acts to determine if the reference data necessary to process the service request

has been already received from the source and if not, the target node acts to forward

the service request to the source node, and in turn receives a result of the processing of

the new service request by the source node, and responds to the external application

with a service request response based on the result received from the source node see

[0028]).

Regarding claim17 note that Kongalath teaches A method according to Claim 12,

wherein the message of connection migrating request received by said ingress node

further comprises request (a migration instruction is sent to both the source and the

target data servicing nodes 202 and 206. Node 202 responds to the migration request

see [0038] and FIG.2): the egress node identifier, or the egress node identifier and

outgoing port information at the egress node of the current connection requested to be

migrated(the target node forwards the service request to the source node, which

processes the service request and returns to the target node a result of the processing,

and the target node responds to the external application with a service request

response based on the result received from the source node see [0027]).

Regarding claim18, note that, Bienn. A method according to Claim 17, further

comprising before said egress node makes a migration between a permanent

connection and a switched connection (interworking between a legacy circuit-switched

domain and a packet-switched domain see [0002] , [0004] and FIG.1): deciding whether

the egress node identifier or the egress node identifier (A reference point exists when

two network entities are interconnected through one signaling or bearer stream point.

Reference points identify that a logical relationship exists between two network entities

see [0025]) .

Also not that Kongalath teaches outgoing port information contained in the received

message of connection migrating request is correct or not, if yes, creating or deleting a

switched connection at the node, otherwise returning a message of failure and ending

this process (the target node acts to determine if the reference data necessary to

process the service request has been already received from the source and if not, the

target node acts to forward the service request to the source node, and in turn receives

a result of the processing of the new service request by the source node, and responds

to the external application with a service request response based on the result received

from the source node see [0028]).

   Regarding claim19,note that, Bienn discloses a method according to Claim 1,

wherein, if said migration between a permanent connection and a switched

connection(interworking between a legacy circuit-switched domain and a packet-

switched domain see [0002] , [0004] and FIG.1)is a migration from a switched

connection to a permanent connection, the message of connection migrating request

received by said ingress node comprises: the identifier(A reference point exists when

two network entities are interconnected through one signaling or bearer stream point.

Reference points identify that a logical relationship exists between two network entities

see [0025]) of the current switched connection.

Regarding claim20, note that, Bienn discloses. A method according to Claim 1, wherein

said connection is a uni-directional connection or a bi-directional connection (The HLRe

15 is a network entity that supports non-PS Terminals (legacy MS's) in a PS network.

The HLRe 15 can have a PS signaling interface. The HLRe 15 supports roaming to the

other PS networks see [0030] and FIG.1).

Regarding claim21note that, Bienn discloses. A method according to Claim 1, wherein

said switched connection in the method is a soft permanent connection initiated by

network management system or a switched connection initiated by a client device or a

proxy thereof(call initiation, call termination, in a PS signaling network environment will

operate in a manner transparent to the user. Furthermore, ideally, such support should

also permit supporting new features and capabilities see [0004]) also (The LMSDS

systems 11 and 12 are responsible for the control of call origination and call termination

of both the circuit and packet switched networks. The LMSDS 11 and 12 terminate the

user-network signaling and convert it into the appropriate network-network signaling see

[0028]).

6.   Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bienn et

al (US 20030169729 A1) IN VIEW OF kongalath (us 2005/0083862 A1), as applied to

claim 1 above and further in view of Rodin (US 20010033561 A1)

    Regarding claim 22, Bienn and Kongalath discloses according to Claim 1 above and

wherein said transmission network is a Synchronous Digital Hierarchy(The MGW 7 can

also provide modem functions to convert digital byte streams to and from audio modem

tones placed on circuits see[0017].

Bienn and Kongalath do not disclose synchronous optical network, or a wavelength

switched network, or an Optical Transport Network (OTN). However Rodin teaches

synchronous optical network or a wavelength switched network, or an Optical Transport

Network (OTN) (the combination switch 110 is placed into electronic communication

with a plurality of transceivers 60, 90. The transceivers may be radio frequency

transceivers, optical transceivers, or other transceivers which operate using

electromagnetic energy to communicate information. Thus, when a network supplies

frames 72 of circuit-switched data to the base station 100, they may be received by the

combination switch 110, and selected portions of the frames 72 can be sent on to the

transceivers 60 and Fig.2A see [0023])Thus it would have been obvious to one of

ordinary skill in the art at the time the invention was made to made use of the disclosure

of Bienn and Kongalath and combine it with the teachings of Rodin in order to provide

Combination switch and routing-switching radio base station.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to KHALID ABDALLA whose telephone number is

(571)270-7526. The examiner can normally be reached on MONDAY THROUGH

FRIDAY 7 AM TO 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, JINHEE LEE can be reached on 571-272-1977. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

       Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. A./
Examiner, Art Unit 4173

                                                    /Jinhee J Lee/
                                                    Supervisory Patent Examiner, Art
                                                    Unit 4173